

TABLE I—Pattern of disease in patients with superficial tumours

Category of patient	No followed more than 5 years	No of recurrences			Deaths from bladder cancer
		1	1	≥2	
Patients without residual or recurrent tumour at 3 months	33	20	3	10	1 (3%)
Patients with residual or recurrent tumour at 3 months	38	0	3	35	9 (24%)

TABLE II—Results of treating 51 patients with invasive bladder carcinoma by total cystectomy and urinary diversion

No of years since cystectomy	No of patients still alive	No of patients who died	Cause of death		
			Disease	Treatment	Non-related
0-1	2	16	3	10	3
1-5	3	14	5	4	5
5-10	7	3	0	1	2
10-20	4	2	0	1	1

without either preoperative or postoperative radiotherapy; (iii) patients with clearly advanced extravesical disease (54 patients)—treated by radiotherapy or terminal care as indicated.

In patients with superficial papillary tumours the five- and 10-year survival rates were 76% and 71% respectively—figures similar to those reported by specialist urology units here and abroad.^{1,2} Two distinct subgroups of patients could be recognised (table I) in this category: (1) Patients who were free of tumour at the first three-monthly check cystoscopy (that is, had neither residual nor recurrent tumour); these patients had quite a good outlook in terms of tumour recurrence and long-term survival, 61% having no further recurrences of tumour during a minimum follow-up period of five years and only 3% dying of bladder cancer during a five-year period. (2) Patients who had residual or recurrent tumour at three months; 92% of these patients developed multiple (more than five) recurrences during the follow-up programme and 24% eventually died of bladder cancer. The patients with infiltrative tumours who were treated by total cystectomy had a high perioperative mortality rate (17.6%), related to cardiovascular and respiratory complications of surgery in an elderly group. However, the five- and 10-year survival rates were 31% and 12% respectively (table II). The patients with advanced extravesical disease had a very poor prognosis, and all of these patients were dead within two years of diagnosis.

Although the overall results given above are poor, they differ little from those reported by specialist urology units, including units which strongly favour radiotherapy.^{3,4} It seems hard to justify any claims that patients with bladder cancer may fare less well in district general hospitals or centres without immediate access to radiotherapy facilities. Clearly there is much room for improvement in the survival figures for bladder cancer, but in the light of present knowledge we feel that a primarily surgical approach to this difficult problem is not inappropriate, but that adjuvant or possibly only cytotoxic chemotherapy might lessen the poor results in patients with advanced disease.

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¹ Pryor JP. *Br J Urol* 1973;45:586-92.

² Barnes RW, Dick AL, Hadley HL, et al. *Cancer Res* 1977;37:2895-7.

³ Prout GR jun. *Cancer Res* 1977;37:2764-70.

⁴ Whitmore WF, Batata MA, Ghoneim MA, et al. *J Urol* 1977;118:184-7.

Assisting the police

SIR,—In describing the duties of a doctor examining one of his own patients after death,

Dr Stuart Carne (6 June, p 1839) stated that the coroner must be notified "in cases where the doctor had not seen the patient within 14 days of death." Leaving aside the somewhat pedantic argument as to whether this compulsory duty falls to the doctor or the registrar, I still feel that the instruction is incorrect.

Regulation 51(1) of the Registration of Births, Deaths and Marriages Regulations 1968 states that the relevant circumstances are when the deceased was seen by the certifying medical practitioner "neither after death nor within 14 days before death." The words neither and nor are emphasised by Davies.¹ Thus the carrying out of either examination would satisfy the requirements for direct death certification and registration.

It has always seemed to me that the English coroner's system suffers in comparison to that operating in Scotland by overwhelming the necropsy service with patently natural deaths which, if dissection is to be carried out, would be better routed through academic departments of pathology. To apply a "14-day rule" which is not dictated by regulation would seem to make things even more difficult.

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¹ Davies MRR. *The law of burial, cremation and exhumation*. 4th ed. London: Shaw and Sons, 1976:78.

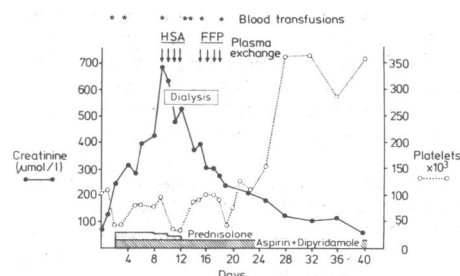
Plasmapheresis in the haemolytic-uraemic syndrome in children

SIR,—The case report by Dr T J Beattie and others (23 May, p 1667) prompts us to report a similar case of oliguric haemolytic-uraemic syndrome (HUS) in a child who recovered fully after plasma exchange.

At the age of 4 years she had her first episode of HUS manifest by anaemia (haemoglobin 4.7 g/dl), thrombocytopenia (platelet count $50 \times 10^9/l$ ($50000/mm^3$)), and renal failure (plasma creatinine 345 $\mu mol/l$ (3.9 mg/100 ml)). With prednisolone, antibiotics, heparin, and dipyrindamole she recovered fully without the need for dialysis.

Four years later, at the age of 8 years, she had her second episode of HUS, occurring two weeks after treatment for an ascariis infestation (facial oedema, urticaria, and eosinophilia). Her progress is shown on the accompanying figure.

In view of the debate about the presence of circulating triggers,¹ an as yet unidentified plasma deficiency,² or both, we carried out sequential plasma exchange. Initially plasma exchange was carried out replacing 1.5 l of the patient's plasma with 1.5 l of human serum albumin (HSA)



Effect of plasma exchange using human serum albumin (HSA) followed by fresh frozen plasma (FFP) on plasma creatinine and platelet count in haemolytic-uraemic syndrome.

Conversion: SI to traditional units—Creatinine: 1 $\mu mol \approx 0.0113$ mg/100 ml.

(Buminate) on four consecutive days. After three days there had been no improvement, suggesting no circulating agent perpetuating the condition. The plasma exchange was then repeated using fresh-frozen human plasma, which was followed by prompt recovery of renal function (such that dialysis could be withdrawn) and recovery of the platelet count. This suggests that repletion of a missing factor (capable of allowing PGI_2 (prostacyclin) synthesis) present in fresh-frozen plasma but not in Buminate was responsible for recovery.

Although we have not tested the ability of the patient's plasma to support synthesis of prostacyclin in vitro, we feel that plasma exchange may be helpful in HUS and related conditions such as thrombotic thrombocytopenic purpura and postpartum acute renal failure if only as a convenient method of infusing large volumes of fresh-frozen plasma into an oliguric patient to replete deficient plasma factors. We feel that plasma exchange was responsible for the clinical improvement in this patient, who falls into a poor prognostic group in that she was older and had had a previous attack. She had failed to respond to aspirin and dipyrindamole given for 10 days prior to plasma exchange and then subsequently became oliguric.

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¹ Anonymous. *Lancet* 1979;ii:890-1.

² Remuzzi G, Misiani R, Marchesi D, et al. *Lancet* 1978; ii:871-2.

University budgets and medical education

SIR,—I have believed for a number of years that the cost of clinical education for undergraduates must be more expensive than that of preclinical, but reading the article by Dr Anne Grüneberg on university budgets and medical education (13 June, p 1987) persuaded me to reassess the reality of that statement.

From the staffing point of view there are remarkably few people who are exclusively retained for the purpose of clinical teaching. The vast majority, particularly in peripheral hospitals, have a strictly clinical role and teaching is a very minor consumer of time. This is very different from preclinical teaching, where each specialty has a number of lecturers whose central role is that of educating the undergraduates. There are comparatively few teaching-orientated clinical departments, and

those that do exist are primarily concerned with research.

In the clinical course the greatest amount of teaching is performed in the environs of the patient, and the acceptance of non-teaching hospitals as sites for the training of tomorrow's doctors implies that this is a satisfactory arrangement. Capital costs are very low. The upkeep of hospitals is independent of the presence of students and their education is similarly independent of the high technology that teaching hospitals like to invest in. Lecture theatres are generally already available in pre-clinical schools and, in any case, there is no necessity for them to be in hospital grounds.

The everyday material costs of running a clinical school should be much less than the preclinical equivalent. There are few if any practical exercises or laboratory projects to be done and hence no technical staff are required. Examinations cause some expense, but they have been cut to a minimum in the clinical period by having a single set at the end of three years. Again this is dissimilar to the preclinical schools, where multiple annual examinations are held in fulfilment of the university requirements.

As for the students, they spend all their time in the preclinical course at the medical school, but during the clinical years they are attached to many other places and may seldom return to their home institution. The only facility expected by both types of undergraduate is a comprehensive library. In practical terms, clinical students can, if given the opportunity, reduce the work load on the junior hospital doctors to the direct benefit of everyone involved.

So why is clinical education so expensive? The obvious reason is too many staff. Certainly in teaching hospitals this is coupled with too few patients and makes it very difficult to give an all-round education to the undergraduate. The recent suggestion to reduce the staff: student ratio to 1:7 from the level of 1:5.5, as mentioned by Dr Grüneberg, is a move in the right direction. However, from my own analysis of the present system there are good reasons for undertaking a proper and detailed audit of the financing of clinical teaching. Clinical education has always been considered to be more prestigious than its preclinical counterpart, but there seem to be few reasons for its greater cost.

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Medical manpower and the career structure

SIR,—Professor M D Vickers deserves to be congratulated on his excellent and comprehensive appraisal of medical manpower (6 June, p 1854). I can find little to fault the general thrust of his argument. However, two aspects seem to have been given inadequate emphasis.

First of all, Professor Vickers strongly advocates financial incentives among others to produce a change in the manpower structure, which will be unavoidable as a result of the increased output of British medical schools. Such incentives could just as well be relative rather than absolute. Providing a medical service with a larger proportion of doctors in career instead of training posts must surely be more expensive. In the present gloomy economic climate it seems inevitable to me that financial inducements will be to a greater or lesser extent funded by allowing the overall income of

trained doctors to slip further and further behind that of comparable professions such as dentists and solicitors. The result of this year's Review Body may be only a taste of far worse to come. Politicians would find it easier to justify to the electorate a maintenance of the present relative income of doctors if the overall cost-effectiveness of the NHS were improved. This might be partially achieved by placing a much greater emphasis on general practice. Minor surgery in general practice is a topical case in point.

There is a second aspect which in my view Professor Vickers underemphasised. The diminution of status enjoyed by senior hospital staff from that of "consultant" to that of "specialist" must ultimately result from dramatically altering the ratio of trained to trainee staff. As he so cogently points out, opportunities for teaching would be reduced while the night and "donkey" work load would increase. This would have a detrimental effect on morale and productivity, particularly in vulnerable specialties like anaesthesia. However, high status within the profession need not necessarily depend on chronological seniority. Full-time specialists deserve no less awe and respect from part-time specialists *within their own field* than they have from junior staff, whether or not their overall status as doctors is on an equal level. Where the vast majority of doctors are employed in career posts (and without a sub-consultant grade), it is only by encouraging general practitioners to work within the hospital that full-time specialists could continue to lay claim to the title of "consultant." I believe passionately that the level of job satisfaction for both is thereby enhanced.

It seems inconceivable that there will ever be an absolute shortage of applicants to the medical schools, but loss of income and status would have a disastrous effect on the recruitment of high-calibre people into the medical profession. Unless we find the solution ourselves I fear a far less palatable one would be imposed on us.

The ideas expressed above are to a large extent based on the medical manpower structure of many, if not most, developed Western countries outside the UK, where admittedly doctors tend to enjoy a much higher standard of living. Even so, within the UK there are smaller communities where the general practitioner plays a major role in filling the "registrar" grades. In my personal experience, by way of an example, GP anaesthetists provide a viable first-on-call emergency service in the Cirencester and Isle of Wight hospitals.

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Fewer registrars and more consultants?

SIR,—Mr P W Wenham, in his "Personal View" (23 May, p 1701), has very clearly set out the unacceptable consequences of the present ratio of juniors to consultants. The situation he describes is not confined to general surgery but is now afflicting anaesthesia, which was so recently considered a shortage specialty. Choosing a senior registrar is now an ordeal, since one has to reject as many as 10 excellent registrar applicants for one post, all of whom could be good consultants in a short time if only there were training jobs for them. Even the successful candidate has an uncertain future because of the lack of consultant openings.

Like Mr Wenham, I think that arithmetic forces one to the conclusion that numbers of registrars must be reduced, to ensure that failure to progress takes place at an early age before a young doctor is committed to a particular career. Equally, the number of consultants must rise, to get the work done.

A two-tier system of "consultants" must be rejected, as no self-respecting senior registrar of the quality one now sees would consent to enter a grade involving permanent helotry. The alternative is that all consultants do night calls, and even set up their own drips. In a reasonable-sized district the night work should not be too onerous—certainly no worse than what our GP colleagues have always done.

As a consultant of some seniority I do not look forward to this with any pleasure, but feel that it is the only way to do justice to the next generation.

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Doctors' pay

SIR,—Just one year after the completion of the so-called phased award, which gave us about half the income of our colleagues in any other civilised country and lost us many thousands of pounds en route for ever, we are once again faced with the same old story. And this is despite our negotiators' promises that the profession would never be allowed to fall behind again, with all the hopelessness of ever catching up that this entails. So much for promises.

To begin with, the Review Body's meagre award of 9% was totally inadequate and had already taken the economic state of the nation into account—which was quite outwith that body's mandate to state what it thought doctors are at present worth and leave it at that. After this already ludicrous evaluation, for the Government unilaterally to rob us of one-third of this is absolutely disgraceful and would not be tolerated by any other negotiating body in the country.

It is now quite obvious that neither the Review Body nor our far too gentlemanly negotiators can ever bring us any worthwhile results. The former must be scrapped and the latter replaced with men of courage who will fight for our just rewards. Never again must we allow ourselves to be sold down the river, with sheeplike faint bleatings of protest; but must have those (professional or otherwise) who will be prepared to stand up to Governments of all complexions whose sole object is to buy our services as cheaply as they can and always will exploit our reluctance to take any form of industrial action.

Firstly, we should cease *all* certification at once as our negotiators were previously firmly instructed to do—but they arrogated to themselves the right to ignore these instructions, with the present disastrous results for all of us. We should then tell the health minister how much, if any, of our services we are willing to give for such paltry remuneration. If he wants the present level of services from us he must be prepared to pay "the rate for the job." If not, so be it—we can still sell our services in the open market.

Let us wake up before it is too late and the Government's obvious aim of overproduction of doctors leads us to the same contemptuous treatment as teachers, who are now filling the dole queues and having to accept whatever they are given.

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